The Morphology of Data Governance: A Disciplinary Imperative for Professional and Technical Communication

Shiva Mainaly
The University of Memphis

Abstract: This commentary discusses my experience transforming the technical and professional communication program at North Dakota State University (NDSU) by integrating data governance principles. I collaborated with faculty from various departments, including business, computer science, and Northern Plains Ethics Institute, to create a comprehensive, interdisciplinary curriculum. My efforts also grafted data governance principles across NDSU's communication programs. Over time, new courses focusing on AI content strategy and data storytelling were also introduced. The integration of data governance skills into the curriculum made NDSU graduates highly sought-after by employers. I fostered a data governance culture through extracurricular initiatives, such as student clubs, an annual "Data Thon," and partnerships with industry professionals.

Keywords: data-driven innovation, data governance, data silos, technical communication, UX/UI

I joined North Dakota State University (NDSU) in the capacity of an expert on technical and professional communication with a mission—to transform how the university's technical and professional communication program approached data. I spent years in the corporate world before getting into academia. I had seen firsthand how poor data governance practices could lead to inefficiencies, compliance issues, and a lack of trust in an organization's data assets. At NDSU, the technical communication and professional writing program was highly regarded, with graduates going on to successful careers at major tech companies, consulting firms, and other businesses needing skilled communications. However, I recognized that the curricula did not adequately address the data governance domain.

In the 21st-century data economy, understanding how to manage data properly as an asset throughout its lifecycle has become essential for dedicated data professionals, technical communicators, and anyone who works with data in any capacity. Technical writers, content strategists, documentation specialists, and

user experience designers rely on data, a lack of data governance principles and best practices may mean that communicators could unknowingly give rise to data quality issues, compromise data privacy and security, or create inconsistent data flows that impair efficiency. (Cheong et al., 2007; Benfeld et al.,2020). I knew that giving NDSU's students a solid grounding in data governance would make them even more valuable to employers and better prepared to make the university a pioneer in integrating data governance into communication curricula, because—as argued by Olivia B. Nielsen (2017) concerning literature review on data governance practices between 2007 and 2017— "32% of published papers came from computer science disciplines, another 32% from information systems, and only 5% were from education, mainly higher-education institutions and learning" (p. 199). This provided us a sense of how data governance has been associated with certain disciplines such as computer science and information technology from a technical and system perspective.

Let's start with what data governance is in the literal sense of the word. Tibor Koltay (2016) argues that it is the backbone of any organization's data strategy, encompassing the policies, processes, and technologies that ensure data is managed effectively throughout its lifecycle (p. 303). To proceed along similar lines, data governance establishes accountability, transparency, and consistency in collecting, storing, processing, and utilizing data. Moreover, it involves defining clear roles and responsibilities. Establishing standards and procedures and implementing controls to mitigate data misuse and unauthorized access risks fall under the rubric of data governance.

One of the primary objectives of data governance is to foster what Samir Passi and Steven J. Jackson (2018) call "trust in data" (p. 4). In today's data-driven world, organizations rely heavily on data to make critical decisions, drive innovation, and gain a competitive edge. Nonetheless, without a proper spectrum of measures such as governance measures, data quality issues, and inconsistencies can undermine the integrity of insights derived from that data. By implementing robust data governance practices, organizations can ensure that data is accurate and trustworthy, thereby enhancing confidence in decision-making processes and enabling stakeholders to derive maximum value from data assets (Wilkinson, 2016). With this realization, I proposed to pitch a new course in the program at NDSU.

Pitching a New Course

In my first year on the job, I worked on developing a new course dedicated to data governance to diversify and aggrandize the scope and profile of technical and professional communication. With all this in mind, I drew upon my industry experience, poring over data governance frameworks used by major corporations and government bodies. More importantly, the course would cover key data governance concepts like data governance's roles and responsibilities (McMahon et al., 2019), data quality management (Wang, 1998), metadata management (Mark & Roussopouslos, 1987), data security and privacy (Salomon, 2012), data lifecycle

management (Rahul & Banyal, 2020), and the impact of emerging technologies like AI, Blockchain, and IoT (Soldani, 2021). In one sense, the idea was to give students a comprehensive understanding of data governance, why it mattered, and how communication professionals could apply governance principles and processes in their work.

More pointedly, I also wanted to bring real-world applications, having students examine data governance use cases, policies, and artifacts from actual organizations. In the simplest terms, my vision was to create a new breed of technical communicators who were "data-aware" (Baehni et al., 2004) and could serve as stakeholders and champions for optimal data management practices. However, implementing and maintaining effective data governance can be complex and challenging. It requires strong leadership commitment, cross-functional collaboration, and ongoing investment in people, processes, and technology. Organizations must balance enforcing stringent data governance policies to ensure compliance and foster "a data-driven innovation and agility culture" (Sultana et al, 2022). They must also navigate the evolving landscape of data privacy regulations, technical advancements, and changing business requirements to adapt their data governance practices accordingly. I did my best to align my course with fundamental data management principles.

After months of research and course planning, I pitched the idea to the university curriculum committee. Some faculty members were skeptical of adding a new course focused on data governance, wondering if it strayed too far from the core communication disciplines. However, I showed how the data-driven nature of business, technology, and communications itself had evolved to make data governance mission-critical knowledge for the program's success. Additionally, data governance can accelerate decision-making processes and drive operational efficiency by empowering employees with access to trusted data and self-service analytics tools. Since my strategy was pragmatic enough to drive the whole process methodically, I presented examples of job postings showing employers actively seeking communicators with an understanding of data governance. I also emphasized that the course would make NDSU's programs distinctive and cutting-edge. Ultimately, the curriculum committee approved launching the "Data Governance for Communication Professionals" course starting the following academic year. I had achieved my primary goal—now came the real work of implementing my vision.

An Interdisciplinary Approach

One of the remarkable aspects of how I approached data governance education was my emphasis on interdisciplinary collaboration. A multidisciplinary approach to data governance utilizes expertise from information technology, legal, risk management, data science, and business units to develop comprehensive policies and accountability models for managing and using data assets across the organization (Palmer et al., 2023). I knew the concept of data governance touched on various domains: Business, technology, law, ethics, and more. To provide a

truly comprehensive learning experience, I had to incorporate perspectives from across the university. To that end, I quickly formed partnerships with other faculty across different departments and colleges. A professor from the business school helped shape lessons on data governance frameworks, operating models, and their connection to organizational strategy. A computer science professor consulted on the more technical aspects like data modeling, metadata management systems, and data integration. Since the course's prototype was what I had envisioned, I did not prefer getting bogged down in the rigmarole of jargon-rife delineation.

To give a robust interdisciplinary cast to my curricular endeavor, I turned to the university's law school. There, a lecturer on information privacy and cybersecurity law, provided valuable insights into the legal and regulatory considerations around data governance, especially in industries with stringent data protection requirements like healthcare and finance. Professors in applied ethics and philosophy helped explore the ethical implications of data practices on issues like algorithmic bias, surveillance capitalism, and individual rights over personal data.

Over time, the fledgling shape of the course on data governance course took on a holistic perspective as I managed to bridge these disparate disciplines through guest lectures, joint projects, and interdepartmental knowledge sharing. Students would not learn about governance in a vacuum. They would see all the intersecting dimensions and stakeholders in implementing effective, responsible data management. This course also benefited from collaborations with industry partners I fostered through the university's co-op, internship, and corporate training programs.

Opting for cross-pollinating ideas and insights, I approached experienced data governance professionals from significant companies like tech giants, banks, insurers, and manufacturers with a request to visit the class as guest speakers. They shared illuminating case studies and examples from enterprises grappling with ever-growing data footprints. Additionally, I tapped members of professional associations like DAMA International, the Data Governance Institute (Prasetyo et al., 2019), and others for expertise in current data governance standards, best practices, and certification programs. In creating my innovative curriculum, I absorbed knowledge and resources from a vast network of contributors and pioneers in the data governance space.

Embedding Governance Across the Curriculum

Launching the flagship data governance course was a significant achievement, but it was just the start of my ambitions. My bigger goal was to fundamentally ingrain data governance principles across NDSU's entire suite of communication programs. "Data is the lifeblood of modern organizations," I emphasized repeatedly in the gatherings and interactive meetings. Leveraging my persuasive knack and nuance, I affirmed: As a communication professional, stakeholders must treat data as a precious asset to be properly acquired, described, maintained, and leveraged. Data governance should not be a separate silo—it must be integrated into all communication disciplines and workflows.

Under my guidance, data governance concepts soon started permeating classes beyond the core data governance course. In technical writing courses, students learned metadata tagging standards, content auditing for data quality, and creating data dictionaries and governance artifacts. Toward this goal, I made room for UI/UX design classes incorporating data protection and privacy by design. Students pursuing careers as documentation managers studied governing controlled unclassified information and adhering to data retention policies.

Meanwhile, I developed new classes focusing on emerging communication and data intersections. A course on AI content strategy showed students the intricacies of managing data used in machine learning development. A data storytelling class explored communicating data-driven insights through compelling narratives and visualizations. Data storytelling involves taking complex data sets and communicating insights from them in compelling narratives accessible to broad audiences (Shin et al., 2020). Using data visualization, explicit language, and narrative frameworks, data storytelling makes data meaningful and impactful for influencing strategy and decisions. With some insight into this dimension of data governance, I tended to facilitate this curricular transformation. To that end, I guided faculty from across the programs in training themselves on data governance competencies. I organized workshops, facilitated reading groups, and brought in external trainers to ramp up instructors' knowledge of data governance frameworks and their real-world applications.

Within a few years, my data governance integration efforts had entirely reshaped the technical and professional communication offerings at NDSU. Students were graduating with skill sets few other programs could match—a powerful blend of communication expertise and a robust, future-proof grasp of organizational data governance practices. Companies quickly took notice of the unique capabilities NDSU's graduates now possessed. During on-campus recruiting events, employers were impressed by students' ability to articulate critical data governance concepts like data quality dimensions, data lineage, and metadata management. They could deftly discuss approaches to operationalizing data governance through data governance offices, councils, and centers of excellence.

My students were in high demand, landing enriching roles as data governance analysts, digital governance associates, content governance specialists, information management consultants, and more. Some were hired into dedicated data governance roles, helping companies establish and optimize governance programs. Others became champions for data governance best practices embedded within enterprise communication teams. The success stories poured in, with alumni relating how their data governance knowledge gave them a serious advantage. They could bring tremendous value by bridging gaps between an organization's communication functions and data management capabilities. They understood how to align communication strategy and deliverables with foundational governance processes around data quality, security, retention, and integration. In a few short years, NDSU was transformed into a pioneer and leading educator in data governance for communication professionals.

By embedding these critical 21st-century skills into the curriculum more traditionally focused on writing, UX, and content strategy, NDSU produced a new generation of graduates fully prepared to thrive in the data-driven future of the workplace.

More Than Just Coursework

Beyond just shaping the formal curriculum, though, I helped foster a broader data governance culture across the communication programs at NDSU through extracurricular initiatives and hands-on application opportunities. I worked with student organizations to establish data governance societies and clubs that furthered learning and exploration beyond the classroom. Members of the "Data Steward" club volunteered for consulting projects, helping local nonprofits and small businesses implement basic data governance practices (Peng, 2028). An annual "Data Thon" (Li, 2017) challenged interdisciplinary student teams to analyze datasets and databases from real organizations and enterprises and then present recommendations for improving data quality and developing governance processes. Students could earn micro-credentials and badges for data governance skills through these activities.

I also partnered with the university's technology transfer office to connect students to data governance co-op, internships, and job opportunities. By establishing an advisory council of data governance professionals, I helped create a robust pipeline for students to gain hands-on experience and get mentorship in the field while still in school. For students demonstrating exceptional data governance aptitude, honors projects, and fellowships became available to work directly with me on research initiatives. They examined emerging trends like incorporating AI techniques for operationalizing data governance and studying the social impacts of governance mechanisms around personal data and algorithmic decision-making systems. In large part, within NDSU's technology communication programs, students who had gone through NDSU's refurbished curriculum became go-to resources for their peers struggling with data quality or governance issues. It created a virtuous cycle of knowledge sharing, strengthening the university's collective data governance capabilities for future generations of students.

Looking back years later, everyone beamed with pride at what NDSU had achieved. When I first arrived, data governance was a mere curriculum footnote. It was deeply embedded in how NDSU produced world-class communicators ready to thrive in the data-driven era.

Though it had initially faced skepticism and hurdles in infusing this "non-traditional" domain into the programs, NDSU's vision and collaborative approaches helped make NDSU a promising school for data governance education. My former students were leaders and innovators, spreading data governance brilliance throughout businesses and organizations globally.

Data governance was no longer a niche need but a core skill for the modern technical communication professional. Thanks to the pioneering efforts of educators and expert faculty members, the future was brighter for businesses seeking to unlock the total value of their data assets.

New generations would have the tools to bring order and discipline to the flow of information, powering the industry while upholding vital ethics around privacy, security, and data rights. As data's societal and economic importance only grew over time, there would always be a demand for those who could bridge the gaps between an organization's communication needs and data management capabilities. NDSU's programs, forever transformed by my passions and efforts, would continue supplying the world with skilled data governance communicators for decades.

In conclusion, data governance is critical to modern data management strategies, enabling organizations to effectively manage, protect, and derive value from their data assets. Organizations can ensure data integrity, foster trust, achieve regulatory compliance, and drive innovation by establishing clear policies, processes, and controls. However, successful data governance requires a holistic approach, encompassing people, processes, and technology, solid leadership commitment, and ongoing investment. Ultimately, organizations prioritizing data governance will be better positioned to navigate the complexities of the digital age and capitalize on the opportunities presented by data-driven decision-making.

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Author Information

Shiva Mainaly is a visiting Assistant Professor at the Univesity of Memphis where he teaches courses in technical and professional writing and rhetoric. His research focuses on digital & ambient rhetoric, technical communication, and affordances in artificial intelligence (AI). He also has research interests in science communication rhetoric.